

### **REMARKS**

An excess claim fee is submitted herewith for the cost of four (4) excess total claims.

Claims 1-22 and 28-36 are all the claims presently pending in the application. Claims 1, 20, 22 and 28-30 have been amended to more particularly define the claimed invention. Claims 33-36 have been added.

It is noted that the claim amendments are made only for the purpose of more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-16, 18, 20, 21 and 28-32 stand rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by Robillard et al. ("FEAT A tool for Locating, Describing, and Analyzing Concerns in Source Code") (hereinafter "Robillard-Murphy").

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Robillard ("A study of Program Evolution Involving Scattered Concerns") (hereinafter "Robillard") in view of Robillard-Murphy.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Robillard-Murphy in view of Chu-Carroll (U. S. Pat. Pub. 2002/0198873).

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Robillard-Murphy in view of Robillard.

These rejections are respectfully traversed in view of the following discussion.

#### **I. THE CLAIMED INVENTION**

An exemplary aspect of the claimed invention (e.g., as defined by claim 1) is directed to a system for identifying concerns, including a specifying device for specifying an initial concern in a software system, and an identifying device for exploring the software system and, based on a result of the exploring the software system, identifying a related concern in the software system having a relationship with the initial concern, the identifying device computing a content of the related concern based on the initial concern and the relationship

between the initial and related concerns (e.g., see Application at [0044] and [0066]-[0067]).

This may allow a user to conveniently explore concerns and their relationships within a system.

## II. THE ALLEGED PRIOR ART REFERENCES

### A. Robillard-Murphy

The Examiner alleges that Robillard-Murphy teaches the claimed invention of claims 1-16, 18, 20, 21 and 28-32. Applicant would submit, however, that Robillard-Murphy does not teach or suggest each and every element of the claimed invention.

In particular, nowhere does Robillard-Murphy teach or suggest *"an identifying device for exploring said software system and, based on a result of said exploring said software system, identifying a related concern in said software system having a relationship with said initial concern, said identifying device computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns"*, as recited in claim 1 and similarly recited in claims 20, 22, 28 and 29 (e.g., see Application at [0044] and [0066]-[0067]). As noted above, this may allow a user to conveniently explore concerns and their relationships within a system.

Clearly, these features are not taught or suggested by Robillard-Murphy.

Indeed, Applicant would first point out that assuming *arguendo* that the Robillard-Murphy tool (e.g., hereinafter "the FEAT tool") does support the identification of "concerns", in an exemplary aspect of the claimed invention, a concern may contain one or more entities taken from any sort of software artifact, including source code or UML or other artifacts. The FEAT tool, on the other hand, works only on source code.

In addition, assuming *arguendo* that the FEAT tool teaches following relationships from one concern to another, in an exemplary aspect of the claimed invention, a concern may address any type of relationship between concerns. The FEAT tool, on the other hand, addresses only a very small set of code relationships. Indeed, below is a list of the code relationships that Robillard and Murphy have noted (e.g., see "Concern Graphs: Finding and Describing Concerns Using Structural Program Dependencies" (ICSE 2002)):

- method *a calls* method *b*

- method *a* *reads* field *b*
- method *a* *writes* field *b*
- method *a* *checks* the class of an object, or casts an object to class *c*
- method *a* *creates* an object of class *c*
- class *c* *declares* a method *a* or field *b*
- class *c* *superclasses* class *d*

Further, Applicant would point out that the FEAT tool may detect a relation between elements in concerns (e.g., given a collection of code elements, the FEAT tool may simply identify the code elements that are related to those elements by the above-listed relationships), but the user must then manually select those related elements that should belong to the new concern, one element at a time. An exemplary aspect of the claimed invention, on the other hand, may compute (e.g., automatically compute) a content of the related concern based on the initial concern and the relationship between the initial and related concerns (e.g., see Application at [0044] and [0066]-[0067]). Nowhere is this taught or suggested by Robillard-Murphy.

Therefore, Robillard-Murphy clearly does not teach or suggest an identifying device for exploring the software system and, based on a result of the exploring the software system, identifying a related concern in the software system having a relationship with the initial concern, the identifying device computing a content of the related concern based on the initial concern and the relationship between the initial and related concerns, as in the claimed invention.

Therefore, Applicant would submit that Robillard-Murphy clearly does not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

## **B. Robillard**

The Examiner alleges that Robillard would have been combined with Robillard-

Murphy to form the invention of claims 22, and that Robillard-Murphy would have been combined with Robillard to form the invention of claim 17. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant respectfully submits that these references are unrelated and would not have been combined as alleged by the Examiner. Thus, no person of ordinary skill in the art would have considered combining these disparate references absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, Applicant respectfully submits that neither Robillard, nor Robillard-Murphy, nor any alleged combination thereof teaches or suggests *"an identifying device for exploring said software system and, based on a result of said exploring said software system, identifying a related concern in said software system having a relationship with said initial concern, said identifying device computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns"*, as recited in claim 1 and similarly recited in claims 20, 22, 28 and 29 (e.g., see Application at [0044] and [0066]-[0067]). As noted above, this may allow a user to conveniently explore concerns and their relationships within a system.

Clearly, these features are not taught or suggested by Robillard.

Indeed, like Robillard-Murphy, Robillard simply discloses the FEAT tool which was distinguished from the claimed invention in the Background section of the present Application (Application at page 1, line 21-page 2, line 1; page 8, lines 18-21). Indeed, as noted previously, Robillard describes his FUTURE work by stating that "we are currently working on algorithms to support the automatic determination of concerns of interest based on navigation graphs" (e.g., see page 9, left column).

Therefore, like Robillard-Murphy, Robillard clearly does not teach or suggest an identifying device for exploring the software system and, based on a result of the exploring

the software system, identifying a related concern in the software system having a relationship with the initial concern, the identifying device computing a content of the related concern based on the initial concern and the relationship between the initial and related concerns, as in the claimed invention.

Therefore, Robillard clearly does not make up for the deficiencies in Robillard-Murphy.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

### C. Chu-Carroll

The Examiner alleges that Robillard-Murphy would have been combined with Chu-Carroll to form the invention of claim 17. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

Applicant respectfully submits that these references are unrelated and would not have been combined as alleged by the Examiner. Thus, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

Further, Applicant submits that there is no motivation or suggestion in the references to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, Applicant respectfully submits that neither Robillard-Murphy, nor Chu-Carroll, nor any alleged combination thereof teaches or suggests *"an identifying device for exploring said software system and, based on a result of said exploring said software system, identifying a related concern in said software system having a relationship with said initial concern, said identifying device computing a content of said related concern based on said initial concern and said relationship between said initial and related concerns"*, as recited

in claim 1 and similarly recited in claims 20, 22, 28 and 29 (e.g., see Application at [0044] and [0066]-[0067]). As noted above, this may allow a user to conveniently explore concerns and their relationships within a system.

Clearly, this feature is not taught or suggested by Chu-Carroll.

Indeed, Chu-Carroll simply discloses querying software code stored in a database, the software code including a plurality of units of executable program code. In particular, Chu-Carroll states that the "idea of multidimensional separation of concerns has been explored in the software engineering community" (Chu-Carroll at [0131]). However, this is basically all that Chu-Carroll discloses with respect to concerns.

That is, like Robillard-Murphy and Robillard, Chu-Carroll clearly does not teach or suggest an identifying device for exploring the software system and, based on a result of the exploring the software system, identifying a related concern in the software system having a relationship with the initial concern, the identifying device computing a content of the related concern based on the initial concern and the relationship between the initial and related concerns, as in the claimed invention.

Therefore, Chu-Carroll clearly does not make up for the deficiencies in Robillard-Murphy.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection.

### **III. FORMAL MATTERS AND CONCLUSION**

In view of the foregoing, Applicant submits that claims 1-21 and 28-36, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

Serial No. 10/802,044  
Docket No. YOR920040071US1

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Assignee's Deposit Account No. 50-0510.

Respectfully Submitted,

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